

SEMESTER - II**CPS 2b – Part II - PEDAGOGY OF COMPUTER SCIENCE****Credits: 4****Internal: 40 marks****Hours/Week: Theory-4hrs & Practical- 4hrs****External: 60 marks****Total: 100 marks****Course Learning Outcomes:****At the end of the course, the student-teachers will be able to**

- discriminate the various approaches of teaching Computer Science;
- explore the process of Evaluation;
- design the year plan, unit plan and lesson plans in Computer Science;
- defend the significance of professional growth and commitment of Computer Science teacher;
- point out the importance of classroom climate and manage the classroom effectively;
- determine the appropriate school plant;
- identify and analyze the diverse needs of learners in Computer Science;
- prepare teaching and learning materials in Computer Science;
- evaluate the students through Continuous and Comprehensive Evaluation and analyze the results; and
- compile question bank in Computer Science to aid students' performance.

Unit I: Approaches of Teaching Computer Science

Conference - Seminar- Symposium – Workshop - discussion, and panel discussion, Individualized Instruction - Programmed Instruction-: meaning, fundamental principles, types, merits and demerits - Computer Assisted instruction (CAI) : meaning and definition, basic assumptions, different modes, limitations – Computer Managed Instruction (CMI). Innovative Approaches: E –Learning : Introduction – What is e-learning – Nature and characteristics of e-learning – The contemporary concept of e-learning – Modes and Styles –

Promotion and arrangement for e-learning in our Educational Institutions – Advantages of e-learning - Online Learning - Mobile Learning (M - Learning) : Background – Approaches : Classroom, at work, lifelong and self learning – Analysis of M-learning : value, challenges, growth. Innovative Practices in Teacher-Education: Team teaching: Meaning and definition – objectives - Principles - Types –steps and procedure - Advantages and limitations.

Unit II: Evaluation in Computer Science

Concept of Evaluation- Relationship between objectives, learning experiences and evaluation, -Purpose of Evaluation- Continuous and Comprehensive Evaluation (CCE) - Formative and Summative Evaluation- Preparation of Blue print- construction of an achievement test - Various types of Test items- Objective type: Completion type, Matching, Multiple Choice- Alternative response – Essay type and short answer question - Merits and limitations - Characteristics of good test items - Item Analysis - Steps in constructing Diagnostic tests – Computer Aided Evaluation : Online examination – Grading System.

Unit III: Planning for Teaching

Lesson Planning: Meaning – Functions of good lesson plan – Important features of good lesson plan –various approaches in planning lesson : Unit Approach (Morrison’s Approach), Bloom’s Evaluation-based Approach – RCEM Approach - Herbartian approach in preparing lesson plan. Unit planning: Meaning, - characteristics of good unit plan- steps in preparation of unit plan- advantages and disadvantages of unit plan- distinction between lesson plan and unit plan. Year Plan: Need and Significance – Steps in the Year Plan – Advantages and disadvantages of year plan.

Unit IV: Teacher Professionalism and Teacher Commitment

Committed teachers, passionate teachers: Dimension of passion associated with teacher commitment and engagement: Teacher commitment as passion teachers – teacher commitment as unit of time outside the contact hours with students- teacher commitment as focus on the individual needs of students. Teacher commitment as a responsibility to impart knowledge, attitudes, values and beliefs- teacher commitment as maintaining ‘ Professional knowledge’- teacher commitment as engagement with school and community- importance of

teacher commitment for quality enhancement – ways and means of enhancing teacher commitment for teaching professionalism. Academic and Professional Qualifications for Computer Science teachers- Qualities of good Computer Science Teacher.

Unit V: Classroom Climate and Classroom Management

Meaning and significance of Types of classroom climate: Teacher dominated, laissez-faire and democratic pattern. Classroom Management: Meaning- concept- The set of strategies that teachers and students use to ensure productive, harmonious learning environment to prevent disruptions in the learning process. Classroom management styles - advantages and disadvantages - role of teachers.

Unit VI: School Plant

Norms in setting up school- pre-requisites for school structure- scholastic and Co-Scholastic requirements- School shapes- ideal shape of school.

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